

WellWatcher SoloConn NG

Single-well acquisition unit

APPLICATIONS

- Acquisition unit for all gauges belonging to the family of WellWatcher* permanent monitoring systems
- Local storage of acquired data and interface for remote communication systems

ADVANTAGES

- Real-time monitoring of multiple WellWatcher system gauges per channel
- Notification of downhole faults and undesirable well conditions
- Current and voltage diagnostics and adjustments; cable power-up and power-down capability
- Internal trend memory for pressure, temperature, and diagnostic data
- Wellsite display software for unit configuration, live data capture and storage, and data download
- Onsite and remote data recording ability through Modbus® protocol
- Onboard real-time clock with battery backup that provides data time-stamping
- Coefficient storage
- Availability of multiple industry-standard enclosure ratings

The compact, versatile WellWatcher SoloConn* NG single-well acquisition unit enables both local and remote acquisition of data from pressure and temperature gauges connected to one cable and belonging to the family of WellWatcher permanent monitoring systems. The unit interfaces with SCADA and other remote communication and control systems that gather data for wellsite monitoring.

Automated surveillance

The WellWatcher SoloConn NG unit provides automated surveillance of data streams, alerts, and diagnostic activities, and makes the right data available in a user-friendly format at the desktop. The unit provides communication and power for the downhole gauges.

Data acquisition and storage

Able to power multiple gauges on the same cable, the WellWatcher SoloConn NG unit acquires both raw data and ready-to-use pressure and temperature engineering values at surface. It features an onboard clock to time-stamp the data. Consequently, no incorrect time reference can be inserted, and data are not lost after an unexpected power interruption. Sensor calibration coefficients are stored in the unit itself, eliminating the possibility of data entry error.

Suitability for limited-power locations

The WellWatcher SoloConn NG unit is also suitable for locations where limited power is available, such as where a solar array is the power source.

Data trending in real time

The unit can store a log of up to 500 alarms and events. It records the downhole pressure and temperature data from the gauges connected to it at a user-specified sampling rate. It can be configured to accommodate another user-set sampling rate for system diagnostics information such as cable voltage and current. About 250,000 data points can be stored.

Data transfer

Wellsite commissioning software is used to configure and locally download data from the unit's configuration port. For remote monitoring, the WellWatcher SoloConn NG unit can be connected to a land-based SCADA system through its remote communication port or, optionally, via a satellite-based system. A standard Modbus protocol over an RS-485 connector is used.



WellWatcher SoloConn NG single-well acquisition unit can power multiple gauges on the same cable.

WellWatcher SoloConn NG

WellWatcher SoloConn NG Acquisition Unit Specifications

	Frequency-shift-keying (FSK) gauges	WellWatcher Extend* high-resolution PT gauge
Dimensions (h × w × d), in [mm]	2.1 × 4.1 × 8.7 [53.3 × 103.0 × 220.0] - standard NEMA 1 version	2.1 × 4.1 × 8.7 [53.3 × 103.0 × 220.0] - standard NEMA 1 version
Weight, lbm [kg]	2.0 [0.9] - standard NEMA 1 version	2.0 [0.9] - standard NEMA 1 version
Power supply	24 V DC ± 10% (24 W max. power consumption)	24 V DC ± 10% (40 W max. power consumption)
Temperature, degF [degC]	Operating range: -40 to 131 [-40 to 55] Storage range: -40 to 167 [-40 to 75]	Operating range: -40 to 131 [-40 to 55] Storage range: -40 to 167 [-40 to 75]
Communication ports	One Modbus RTU RS-485 port (two or four wires); 4,800–57,600 bps; four-pin screw terminal One Modbus TCP 10/100 Ethernet port; RJ45 connector	One Modbus RTU RS-485 port (two or four wires); 4,800–57,600 bps; four-pin screw terminal One Modbus TCP 10/100 Ethernet port; RJ45 connector
Configuration port	One Modbus/Serial console RS-232 DB9F port 38,400 bps	One Modbus/Serial console RS-232 DB9F port 115,200 bps
Qualifications/Certifications	CE, [†] (c)UL, [‡] CSA, [§] ROHS ^{††}	CE, [†] (c)UL, [‡] CSA, [§] ROHS ^{††}
Enclosure rating	NEMA 1 (standard device) NEMA 4X and ATEX—requires FEED ^{††} study to determine exact certification needs as per deployment county regulations	NEMA 1 (standard device) NEMA 4X and ATEX—requires FEED ^{††} study to determine exact certification needs as per deployment county regulations

Downhole Gauge Interface

No. of channels	One	One
No. of gauges ^{§§} (must not exceed max. output power of card)	6 nominal, 8 max., depending on well configuration (using XPQG)	Max. 10
Gauges supported ^{†††}	PQG, DPG, NxQG, XPQG	WellWatcher Extend gauge
Input signal voltage	70 mV to 3 V rms	Not applicable
Max. output current, power	250 mA, 17.5 W	200 mA, 35 W
Max. output voltage	75 V open circuit, 70 V at max. output current	175 V (fixed)
Cable voltage status	Short-circuit and open-line detection	Output current and voltage measurements

Software

Software	StarView* wellsite display software	Schlumberger configuration software
Functionality	Unit configuration, including gauge coefficient upload if needed. Live data capture and storage Internal trend memory data download to PC	Unit configuration, including gauge coefficient upload if needed. Live data capture and storage Internal trend memory data download to PC

[†] Conformité Européenne.

[‡] Canadian Underwriters Laboratory.

[§] Canadian Standards Association.

^{††} Restriction of Certain Hazardous Substances.

^{†††} Front-end engineering and design.

^{§§} Certain gauges may not be compatible with a multiple-gauge configuration.

^{††††} Power consumption is 3.2 W without gauges. Consumption varies with cable length and gauge type. For detailed power consumption information, refer to product manuals.

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